Notice No.5

Rules and Regulations for the Classification of Special Service Craft July 2018

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: June 2019

Amendments to	Effective date	IACS/IMO implementation (if applicable)
Part 3, Chapter 1, Section 7	1 July 2019	1 July 2019
Part 3, Chapter 6, Sections 1, 2, 3, 4, 5 & 7	1 July 2019	N/A
Part 4, Chapter 2, Section 9	1 July 2019	N/A

Lloyd's Register

Part 3, Chapter 1
General Regulations

■ *Section 7*
Inspection, workmanship and testing procedures

7.3 Testing procedures

(Part only shown)

Table 1.7.1 Testing requirements

Item to be tested	Testing procedure	Testing requirement
Watertight doors (below freeboard or bulkhead deck) and watertight hatches when fitted in place	Hose(6)	
Note 6. *See also* SOLAS Chapter II-1 *Regulation 16 - Construction and initial tests of watertight closures*. ~~*doors, sidescuttles, etc.*~~ Where the door or hatch has been subject to the full hydrostatic test before installation, the hose test may be replaced by careful visual examination.		

Part 3, Chapter 6
Passenger and Crew Accommodation Comfort

■ *Section 1*
General requirements

1.2 Definitions

1.2.3 **Noise level** is defined as the A-weighted energy equivalent sound pressure level measured in accordance with ISO 2923.

1.2.4 **Vibration level** is defined by the application of ~~ISO 6954:2000~~ ISO 20283-5. The vibration level is defined as the overall frequency weighted r.m.s. value of vibration during a period of steady-state operation over the frequency range 1 to 80 Hz.

■ *Section 2*
Noise

2.2 Passenger accommodation and public spaces

2.2.2 For cabins bordering discotheques and similar entertainment ~~areas~~ spaces, the deck and bulkhead sound insulation is to be sufficient to ensure that the maximum cabin noise levels are not exceeded even when high external noise levels prevail. Noise from entertainment spaces shall be considered as transient noise and should meet the requirements stated in *Pt 3, Ch 6, 2.6 Transient noise*.

2.2.3 Acceptance of noise levels greater than those specified in *Table 6.2.1 High speed craft - Maximum noise levels in dB(A)* and *Table 6.2.2 Yachts - Maximum noise levels in dB(A)* may be considered where agreed between the Owner and Builder at specification/contract stage. Not more than 20 per cent of the passenger cabins, 30 per cent of the public spaces and 20 per cent of the crew cabins should exceed the relevant noise criteria by more than 3 dB(A).

2.2.4 Acoustic insulation of bulkheads and decks between passenger spaces is to be generally in accordance with the values of the weighted apparent sound reduction index ~~R_w~~ R'_w as given in *Table 6.2.3 ~~Minimum air-borne sound insulation~~ Minimum apparent airborne sound insulation indices,* ~~R_w~~ R'_w, calculated using ISO 717/1. *See also Pt 3, Ch 6, 2.2 Passenger accommodation and public spaces 2.2.6*.

(Part only shown)

Table 6.2.3 ~~Minimum air-borne sound insulation indices, R w~~ Minimum apparent airborne sound insulation indices, R'_w

Location		Acceptance Numeral		
		1	2	3
	Standard	~~40~~ 41	~~38~~ 39	~~37~~ 38

Passenger cabins:	Superior			
Cabin to corridor:	Standard			~~34~~ 35
	Superior			

(Part only shown)

2.2.5 For the purpose of selecting acoustic sound insulation, the following sound noise levels may be used ~~with the agreement of the Owner and Builder~~. The frequency spectrum used should be as defined in ISO 717-1: spectrum No. 2 for discotheques and spectrum No. 1 for others. Evaluation should include the frequency range down to 50 Hz 1/3-octave band:

2.2.6 Acceptance of bulkhead and deck acoustic insulation values less than those specified in ~~*Table 6.2.3 Minimum airborne sound insulation indices, R_w*~~ *Table 6.2.3 Minimum apparent airborne sound insulation indices, R'_w* may be considered where agreed between the Owner and Builder. Not more than 20 per cent of the interfaces tested should have airborne sound insulation indices, ~~R_w~~ R'_w, more than 3 dB(A) lower than the minimum specified values.

2.3 Crew accommodation and work areas

2.3.2 Crew space insulation is to comply with the requirements of IMO *Resolution MSC.337(91) – Adoption of the Code on Noise Levels on Board Ships – (Adopted on 30 November 2012)The Annex below is consolidated into Resolution MSC.337(91)*.

(Part only shown)

Table 6.2.5 Crew work areas – maximum noise levels in dB(A)

Location	dB(A) level
~~Machinery space(continuously manned) e.g. stores~~	~~90~~
….	
Wheelhouse, chartrooms, radar rooms	65
…	

2.5 Impact insulation

2.5.2 For passenger and crew cabins located below or adjacent to dance floors, stages, aerobics and gymnasium areas, jogging tracks or other areas where impact noise is generated, the ~~normalised impact sound pressure level~~ normalised field measured impact sound pressure level ~~measured~~ within the cabins is not to exceed 45 dB.

2.5.3 For public rooms under dance floors, stages, aerobics and gymnasium areas, jogging tracks or other areas where impact noise is generated, the ~~normalised impact sound pressure level~~ normalised field measured impact sound pressure level within the space is not to exceed 55 dB.

2.5.4 For passenger cabins, ~~normalised impact sound pressure level~~ normalised field measured impact sound pressure level, ~~$L_{n,w}$~~ $L'_{n,w}$, calculated using ISO 717/2, is to be generally in accordance with the values stated in ~~*Table 6.2.6 Passenger cabins normalised impact maximum sound pressure level L n,w*~~ *Table 6.2.6 Passenger cabins normalised field measured impact sound pressure level $L'_{n,w}$. See also Pt 3, Ch 6, 2.5 Impact insulation 2.5.5.*

Table 6.2.6 Passenger cabins ~~normalised impact maximum sound pressure level $L_{n,w}$~~ normalised field measured impact sound pressure level $L'_{n,w}$

2.5.5 Acceptance of normalised impact sound pressure levels greater than those specified in ~~*Table 6.2.6 Passenger cabins normalised impact maximum sound pressure level L n,w*~~ *Table 6.2.6 Passenger cabins normalised field measured impact sound pressure level $L'_{n,w}$* may be considered for assignment of the applicable class notation where agreed between the Owner, Builder and LR. No more than 20 per cent of the passenger cabins tested should exceed the levels specified by more than 3 dB.

2.6 Transient noise

(Part only shown)

2.6.2 The maximum sound pressure level (~~L_{max}~~ $L_{pAS,max}$) emanating from any machinery or system caused by a single event that produces a noise 'spike' compared to the reference condition sound level (such as vacuum systems or valve operations) is not to cause an increase in noise in comparison with the reference condition (background noise) as below:

A tolerance of ~~+1 dB(A)~~ +3 dB(A) may be applied to 5 per cent of cabins and public areas in each fire zone on each deck. This criterion is generally applicable to the specified maximum noise levels for the space concerned.

■ *Section 3*
Vibration

3.1 Assessment criteria

3.1.2 The limits apply to vertical, ~~fore and aft and athwartship~~ longitudinal and transverse vibrations which are to be assessed separately.

(Part only shown)

Table 6.3.1 High speed craft - Maximum vibration levels

Standard:	~~ISO 6954:2000~~ ISO 20283-5
Units:	~~Frequency weighted (1–80 Hz) velocity mm/s rms~~ Frequency weighted velocity level (1–80 Hz), mm/s r.m.s.

(Part only shown)

Table 6.3.3 Crew spaces - Maximum vibration levels

Standard:	~~ISO 6954:2000~~ ISO 20283-5
Units:	~~Frequency weighted (1–80 Hz) velocity mm/s rms~~ Frequency weighted velocity level (1–80 Hz), mm/s r.m.s.

■ *Section 4*
Testing

4.2 Test conditions

4.2.1 Test conditions for the surveys are to be in accordance with those detailed in ISO 2923 and ~~ISO 6954:2000~~ ISO 20283-5 as applicable.

(Part only shown)

4.2.4 The test conditions required for the vibration and noise measurements are to be in accordance with the following conditions:

(i) For all ships, intermittently run equipment such as transverse propulsion units are to be operated at 40 per cent ~~and for all other ships 40 per cent~~ of their rated power for additional measurements in surrounding ship areas.

4.3 Noise measurements

(Part only shown)

4.3.1 Noise measurements are to be conducted in accordance with ISO 2923 and *IMO Resolution MSC.337(91) – Adoption of the Code on Noise Levels on Board Ships – (Adopted on 30 November 2012)The Annex below is consolidated into Resolution MSC.337(91).*

4.3.3 When outfitting is complete, and all soft furnishings are in place, sound insulation indices for passenger spaces are to be determined in accordance with ~~ISO 140~~ ISO 16283-1. Cabin to cabin indices are to be determined from a minimum of three locations for each cabin type within the passenger accommodation, the number of test locations being agreed with LR. If the partition surface area is less than 10 m², an area of 10 m² shall be used for the calculation of the R'_w index, unless otherwise agreed.

4.3.4 If required, impact sound measurements are to be carried out in accordance with ~~ISO 140/7~~ ISO 16283-2 and and presented in accordance with ISO 717/2. *See Pt 3, Ch 6, 4.4 Noise measurement locations 4.4.4*.

4.4 Noise measurement locations

4.4.1 Measurement locations are to be chosen so that the assessment represents the overall noise environment on board the ship. In addition to the requirements of *IMO Resolution MSC.337(91) – Adoption of the Code on Noise Levels on Board Ships – (Adopted on 30 November 2012)The Annex below is consolidated into Resolution MSC.337(91)* for crew spaces, all public spaces and all passenger spaces are to be measured.

4.4.5 The number of and locations for impact noise measurements are to be agreed between the Builder, Owner and LR. The measurements are to be carried out when the ship is in ~~harbour~~ a condition with steady and low background noise. The number and location of measurements are to take account of all different combinations of construction, areas of application, types of cabin and spaces below.

4.5 Vibration measurements

4.5.1 Vibration measurements are to be conducted in accordance with ~~ISO 6954:2000~~ ISO 20283-5.

4.6 Vibration measurement locations

4.6.4 At all locations, vibrations in the vertical direction are to be assessed. Sufficient measurements in the ~~athwartships and fore and aft~~ longitudinal and transverse directions are to be taken to define global deck vibrations in at least two locations on each deck.

■ *Section 5*
Noise and vibration survey reporting

5.1 General

5.1.4 The survey report is to be submitted to LR~~'s Southampton GTC Office~~ for evaluation and confirmation that the results are in accordance with the noise and vibration levels specified in these Rules and/or agreed between the Owner and Builder. The assignment of a Class Notation or the issue of a Statement of Compliance will be subject to confirmation by ~~LR MSC/TID~~ an LR specialist with a competency level of 2 or higher within Passenger and Crew Accommodation Comfort (PCAC) (ADV198).

5.2 Noise

(Part only shown)

5.2.1 The reporting of results is to comply with ISO 2923 and IMO *Resolution MSC.337(91) – Adoption of the Code on Noise Levels on Board Ships – (Adopted on 30 November 2012)The Annex below is consolidated into Resolution MSC.337(91)*, and is to include:

(d) Trial details:
- Sea state.
- Draught.

5.3 Vibration

(Part only shown)

5.3.1 The report is to contain the following information:

(b) Where ISO ~~6964:2000~~ 20283-5 is used, the frequency-weighted overall r.m.s. vibration levels tabulated for all measurement locations calculated using the weighting functions and methodology stated in the standard.

(e) Trial details:
- Sea state.
- Draught.

■ *Section 7*
Referenced Standards

7.1 Noise

- ~~ISO 2923~~ ISO 2923:1996/Cor 1:1997, *Acoustics – Measurement of noise on board vessels*.
- ~~ISO 717/1~~ ISO 717-1:2013, *Acoustics – Rating of sound insulation in buildings and of building elements; Part 1: Airborne sound insulation*.
- ~~ISO 717/2~~ ISO 717-2:2013, *Acoustics – Rating of sound insulation in buildings and of building elements; Part 2: Impact sound insulation*.
- IMO Resolution *MSC.337(91) – Adoption of the Code on Noise Levels on Board Ships – (Adopted on 30 November 2012)The Annex below is consolidated into Resolution MSC.337(91)*.
- ~~IEC Publication 651, *Sound level meters.*~~ IEC 61672, *Sound level meters* (all parts), or earlier versions.
- ~~ISO 140/4, *Acoustics. Between rooms*~~. ISO 16283-1:2014/Amd 1:2017, *Acoustics – Field measurement of sound insulation in buildings and of building elements – Part 1: Airborne sound insulation*.
- ~~ISO 140/7, *Acoustics impact sound insulation of floors*~~. ISO 16283-2:2018, *Acoustics – Field measurement of sound insulation in buildings and of building elements – Part 2: Impact sound insulation*.

7.2 Vibration

- ~~ISO 6954:2000, *Mechanical vibration and shock – Guidelines for the measurement, reporting and evaluation of vibration with regard to habitability on passenger and merchant ships.*~~ ISO 20283-5:2016, *Mechanical vibration – Measurement of vibration on ships – Part 5: Guidelines for measurement, evaluation and reporting of vibration with regard to habitability on passenger and merchant ships.*
- ~~ISO 80041, *Human response to vibration. Measuring instrumentation*~~. ISO 8041-1:2017, *Human response to vibration – Measuring instrumentation – Part 1: General purpose vibration meters* (or earlier versions).

Part 4, Chapter 2
All Yachts

■ *Section 9*
~~**Support yacht craft**~~ **Yacht support vessel**

9.1 General

9.1.1 A ~~**support yacht craft**~~ **yacht support vessel** provides support to a ~~'primary'~~ yacht and may often also be referred to as a 'shadow yacht'. The ~~support~~ yacht support vessel may be provided with an extensive range of equipment and facilities to perform these duties, such as small craft, seaplanes, large galleys and waste management systems.

9.1.2 For ~~support yachts~~ yacht support vessels, the following are also to be considered according to the load line requirements:
(a) Sill heights of door openings;
(b) Windows and portlights;
(c) Freeing port areas; and
(d) Sill heights of ventilators.

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